

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018868**Date Inspected:** 29-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC)**Location:** Shanghai, China**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 11DW to Segment 11EW (U-Rib to U-Rib)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the U-Rib to U-Rib at the transverse splice between Panel Points (PP) 106 and PP 107 for Segment 11DW to Segment 11EW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00584 dated December 29, 2010.

The bolt sizes used were M22 x 65 RC Lot # DHGM220116 and the final torque value established was 333 N-m.

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220121 and the final torque value established was 393 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220041 and the final torque value established was 460 N-m.

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The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

Segment 11DW to Segment 11EW (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Longitudinal Diaphragm to Longitudinal Diaphragm between Panel Points (PP) 106 and PP 107 for Segment 11DW to Segment 11EW at work point W4, Cross Beam side and work point W3 Counter Weight side. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00584 dated December 29, 2010.

The bolt sizes used were M24 x 70 RC Lot # DHGM240010 and the final torque value established was 560 N-m.

The bolt sizes used were M24 x 95 RC Lot # DHGM240021 and the final torque value established was 540 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

Segment 11DW to Segment 11EW (Transverse Splice T-Ribs)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Side Panel Counter Weight Side (from work point W3 towards W1), Bottom Panel (from work point W4 towards W3) and Cross Beam side (from work point W6 to W4) between Panel Point (PP) 106 to PP 107 for Segment 11DW to 11EW. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00584 Dated December 29, 2010.

The bolt sizes used were M22 x 65 RC Lot # DHGM220115 and the final torque value established was 327 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220041 and the final torque value established was 460 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

Segment 11DW to Segment 11EW (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs after bolting for the Segment 11DW to Segment 11EW between Panel Point (PP) 106 to PP 107 at the following locations:

Work Point W6 towards Work Point W4 (Side Panel Cross Beam side) total 19 T-Ribs.

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Work Point W4 towards Work Point W3 (Side Panel Bottom Panel) total 18 T-Ribs.

Work Point W3 towards Work Point W1 (Side Panel Counter Weight side) Total 19 T-Ribs.

The QA Inspector measured the Vertical Offset using 1(One) Meter Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Lift 11 West (X37B Brackets, Road Barrier)

This QA Inspector performed Dimension Control Inspection for the Segment 11AW, Segment 11BW, Segment 11CW, Segment 11DW and Segment 11EW and measured the distance between Road Barrier bolt holes drilled at X37B from deck panel to the cope hole at X37B bracket installed at Corner Assembly Cross Beam and Counter Weight side at east and west side of the X37B brackets at following locations.

At Panel Points(PP) 95.25 and PP 95.75, Counter Weight side.

At Panel Points(PP) 95.25 and PP 95.75, Cross Beam side.

At Panel Points(PP) 96.25 and PP 96.75, Counter Weight side.

At Panel Points(PP) 96.25 and PP 96.75, Cross Beam side.

At Panel Points(PP) 97.25 and PP 97.75, Counter Weight side.

At Panel Points(PP) 97.25 and PP 97.75, Cross Beam side.

At Panel Points(PP) 98.25 and PP 98.75, Counter Weight side.

At Panel Points(PP) 98.25 and PP 98.75, Cross Beam side.

At Panel Points(PP) 99.25 and PP 99.75, Counter Weight side.

At Panel Points(PP) 99.25 and PP 99.75, Cross Beam side.

At Panel Points(PP) 100.25 and PP 100.75, Counter Weight side.

At Panel Points(PP) 100.25 and PP 100.75, Cross Beam side.

At Panel Points(PP) 101.25 and PP 101.75, Counter Weight side.

At Panel Points(PP) 101.25 and PP 101.75, Cross Beam side.

At Panel Points(PP) 102.25 and PP 102.75, Counter Weight side.

At Panel Points(PP) 102.25 and PP 102.75, Cross Beam side.

At Panel Points(PP) 103.25 and PP 103.75, Counter Weight side.

At Panel Points(PP) 103.25 and PP 103.75, Cross Beam side.

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Note: After performing the Dimensional Inspection, 9(Nine) locations was identified for installing the Retro-fit plates at Cross Beam side and at 10 (Ten) locations was identified for installing the Retro-fit plates at Counter Weight side for X37B brackets.

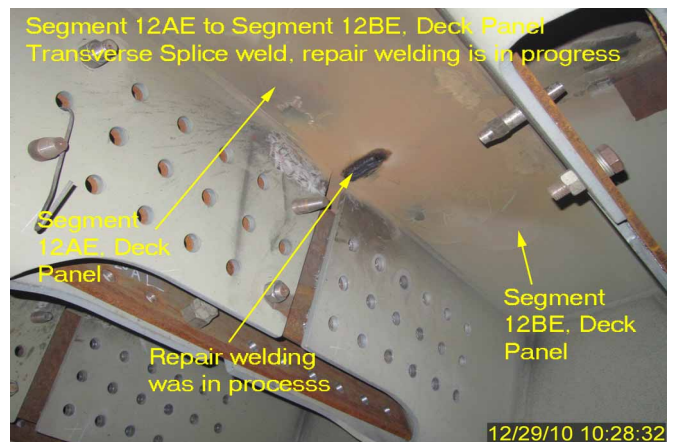
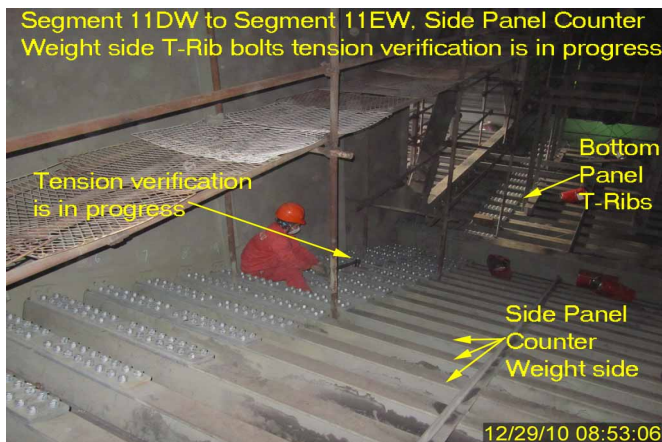
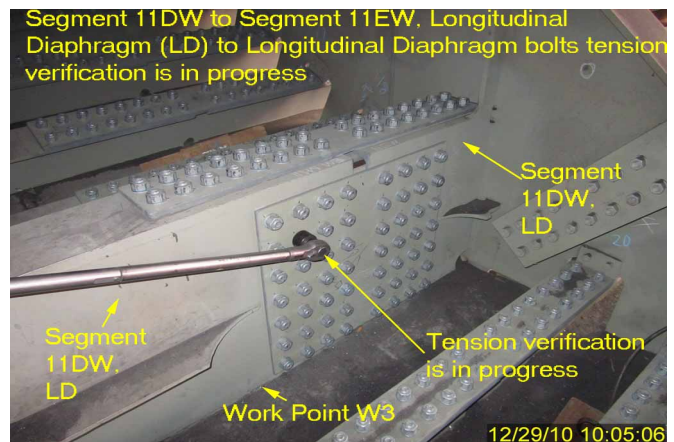
The measurements were recorded in the Dimension Control Plan (DCP) generated by the QA Inspector and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 12AE to Segment 12BE (Deck Panel Transverse Splice)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW12-003. The welder identification was 044515 and 050289 and was observed welding in the 4G (Flat) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-1. The piece mark was identified as the Deck Panel, transverse splice weld.

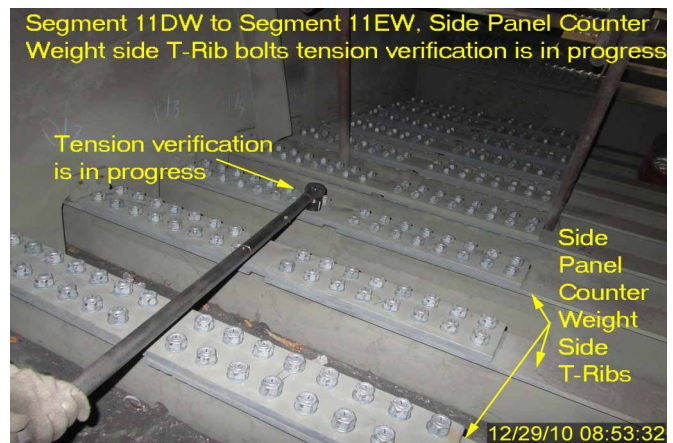
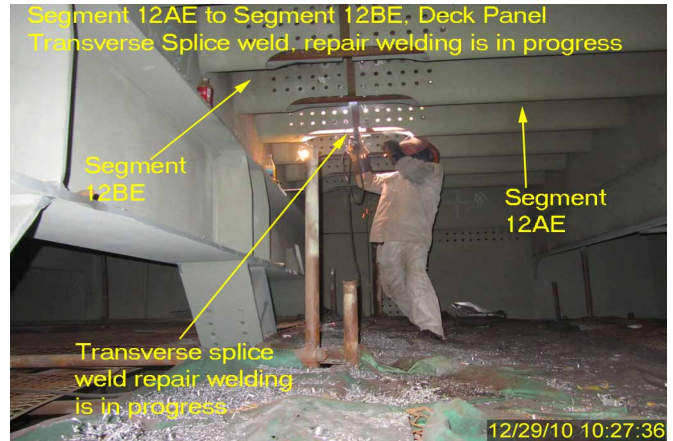
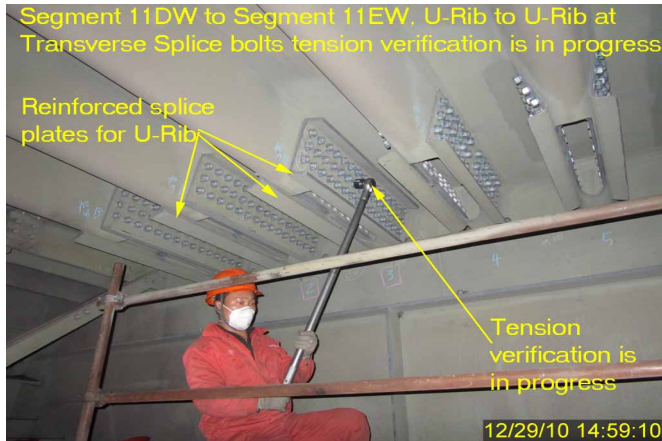
Please reference the pictures attached for more comprehensive details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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## Summary of Conversations:

No relevant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

**Inspected By:** Math,Manjunath

Quality Assurance Inspector

**Reviewed By:** Dsouza,Christopher

QA Reviewer